

## **AMENDMENTS**

### **In the Specification**

none

### **In the Claims**

Please replace the claims with the following clean version of the entire set of pending claims, in accordance with 37 C.F.R. § 1.121(c)(1)(i).

Cancel all previous versions of any pending claim.

A marked up version showing amendments to any claims being changed is provided in one or more accompanying pages separate from this amendment in accordance with 37 C.F.R. § 1.121(c)(1)(ii). Any claim not accompanied by a marked up version has not been changed relative to the immediate prior version, except that marked up versions are not being supplied for any added claim or canceled claim.

## **CLAIMS**

Pub E1  
D1  
1. A method of forming a fluorine doped insulating material comprising:

providing a substrate within a reaction chamber, the reaction chamber controlled within a range of temperatures from above 400 degrees Celsius ( $^{\circ}\text{C}$ ) but not greater than about 700 $^{\circ}\text{C}$ ;

providing reactants comprising silicon, fluorine and ozone within the reaction chamber; and

depositing an insulating material, at a rate of from about 1000 angstroms per minute ( $\text{\AA}/\text{min}$ ) to about 10000  $\text{\AA}/\text{min}$ , comprising fluorine, silicon and oxygen onto the substrate from the reactants, wherein the depositing occurs with a plasma being present in the reaction chamber.

Pub E1  
D2  
4. The method of claim 1 wherein the silicon and fluorine of the reactants are comprised within a common molecule.

5. The method of claim 1 wherein the silicon and fluorine of the reactants are comprised within a common molecule having an Si-F bond.

6. The method of claim 1 wherein the silicon and fluorine of the reactants are comprised by triethoxy fluorosilane.

7. The method of claim 1 wherein the fluorine in the insulating material is present in Si-F bonds.

D2 sub E1  
Concl'd

8. The method of claim 1 wherein the fluorine in the insulating material is present at a concentration of from about 0.1 atomic percent to about 10 atomic percent.

D3 sub E1

10. The method of claim 1 further comprising maintaining a pressure within the reaction chamber at from about 1 Torr to about 1 atmosphere during the depositing.

sub E1

13. The method of claim 1 wherein the reactants further comprise phosphorus, and wherein the insulating material comprises fluorine, silicon, oxygen and phosphorus.

D4

14. The method of claim 1 wherein the reactants further comprise boron, and wherein the insulating material comprises fluorine, silicon, oxygen and boron.

15. The method of claim 1 wherein the reactants further comprise boron and phosphorus, and wherein the insulating material comprises fluorine, silicon, oxygen, boron and phosphorus.

16. The method of claim 1 wherein the reactants comprise a molecule that includes both Si and F, and another molecule that includes Si without F.

Sub E1  
17. The method of claim 1 wherein the reactants comprise triethoxy fluorosilane and tetraethyl orthosilicate.

18. A method of forming a silicon oxide having Si-F bonds, comprising:

providing a reaction chamber at a temperature in excess of 400 degrees Celsius ( $^{\circ}\text{C}$ ) but less than  $630^{\circ}\text{C}$ ;

positioning a substrate within the reaction chamber;

providing an ozone comprising reactant and a precursor having Si-F bonds to the substrate within the reaction chamber; and

causing a silicon oxide having Si-F bonds, to deposit onto the substrate within the reaction chamber at a rate of from about 1000 angstroms per minute ( $\text{\AA}/\text{min}$ ) to about 10000  $\text{\AA}/\text{min}$ .

19. The method of claim 18 wherein the precursor having Si-F bonds is triethoxy fluorosilane.

20. The method of claim 18 wherein the depositing occurs with a plasma being present in the reaction chamber.

Sub E1  
22. The method of claim 15 wherein the boron-containing precursor is triethyl borane.

23. The method of Claim 1 wherein providing reactants comprising silicon, fluorine and ozone within the reaction chamber comprise providing reactants comprising triethoxy fluorosilane, a phosphorus-containing precursor and ozone, wherein the insulating material deposited is a phosphorus-doped silicon oxide material having Si-F bonds.

24. The method of claim 23 wherein the phosphorus-containing precursor is tetraethoxy phosphine.

25. The method of Claim 1 wherein providing reactants comprising silicon, fluorine and ozone within the reaction chamber comprises providing reactants that include triethoxy fluorosilane, a boron-containing precursor, a phosphorus-containing precursor and ozone, wherein the insulating material deposited is a boron and phosphorus-doped silicon oxide material having Si-F bonds.

26. The method of claim 25 wherein the boron-containing precursor is triethyl borane.

27. The method of claim 25 wherein the phosphorus-containing precursor is tetraethoxy phosphine.

D5  
Concl'd  
sub E1

28. The method of claim 25 wherein the phosphorus-containing precursor is tetraethoxy phosphine and the boron-containing precursor is triethyl borane.

D6  
sub E1

36. The method of claim 1 comprising depositing the insulating material at a rate of about 8000 Å/min.

D7  
sub E1

38. The method of claim 18 comprising maintaining a pressure and a temperature within the reaction chamber at from about 400 Torr to about 1 atmosphere and in excess of 500°C but less than 630°C, respectively, during the depositing.

39. The method of claim 38 comprising maintaining a pressure within the reaction chamber at about 600 Torr during the depositing.

D8  
sub E1

43. (New) The method of claim 18 comprising maintaining a pressure and a temperature within the reaction chamber at from about 400 Torr to about 1 atmosphere and from about 500°C to about but less than 630°C, respectively, during the depositing.

44. (New) The method of claim 43 comprising maintaining a pressure within the reaction chamber at about 600 Torr during the depositing.